State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor
Kathleen Clarke
Executive Director
Lowell P. Braxton
Division Director

1594 West North Temple, Suite 1210
PO Box 145801
Salt Lake City, Utah 84114-5801
801-538-5340
801-359-3940 (Fax)
801-538-7223 (TDD)

April 21, 2000

Clifton Mining Company
Keith Moeller
70 West Canyon Crest Road Suite D
Alpine, Utah 84004

Re: Initial Review of Notice of Intention to Commence Large Mining Operations, Clifton Mining Company, Cactus Mill, M/045/049, Tooele County, Utah

Dear Mr. Moeller:

On March 22, 1999, the Division received a copy of your Plan of Operations (POO) which you submitted to the Bureau of Land Management (BLM) for your Cactus Mill located in Tooele County, Utah. On December 17, 1999, you were advised that the POO, along with your response to a BLM May 29, 1999 Notice of Noncompliance would be considered adequate information to be considered in lieu of a Large Mining Notice of Intention to Commence Large Mining Operations (LMO) and would be reviewed as such. After reviewing the information, the Division has the following comments which will need to be addressed before tentative approval may be granted. The comments are listed below under the applicable Minerals Rule headings. Please format your response in a similar fashion. If possible, please provide a response to this review by May 22, 2000.

We will suspend further review of the Cactus Mill LMO until your response to this letter is received. If you have any questions in this regard please contact me, Tom Munson, Doug Jensen, or Lynn Kunzler of the Minerals Staff. If you wish to arrange a meeting to sit down and discuss this review, please contact us at your earliest convenience. Thank you for your cooperation in completing this permitting action. As this operation has exceeded the limitation of your current small mining application, we would like to finalize this permitting action as expeditiously as possible.

Sincerely,

D. Wayne Hedberg
Permit Supervisor
Minerals Regulatory Program

jb
Attachment: Review
cc: Mike Ford, BLM, SLFO (U-73999)

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REVIEW OF NOTICE OF INTENTION TO COMMENCE LARGE MINING OPERATIONS

Clifton Mining Company
Cactus Mill

M/045/049

R647-4-105 - Maps, Drawings & Photographs

105.1 Topographic base map, boundaries, pre-act disturbance
Please provide a topographic base map showing the area of operations. Previously disturbed areas used in the present operation need to be included in the reclamation plan. (DJ)

105.2 Surface facilities map
Please provide a surface facilities map at a scale of approximately 1" = 500'. This map should include buildings, power lines, proposed drainage control structures, location of topsoil storage areas, and tailings facilities. Show dimensions of the features as accurately as possible. Provide a border outlining the proposed disturbed areas. (DJ)

105.3 Drawings or Cross Sections (slopes, roads, pads, etc.)
Please provide scaled cross-sections of the tailings pond area showing surface before and after reclamation. Provide a Reclamation Treatments Map showing the extent of reclamation work that will be done at the closure of the operation. The scale of this map should be the same as the Surface Facilities Map. (DJ)

R647-4-106 - Operation Plan

106.2 Type of operations conducted, mining method, processing etc.
There presently is a cyanide circuit in the new mill building. Will this be used in future milling operations? (DJ)

106.5 Existing soil types, location, amount
Please provide a Order 3 soil survey for this site. It is possible that the Natural Resources Conservation Service (formerly Soil Conservation Service) may have this survey available for you. In addition to this survey, you will need to provide a laboratory analysis of the soil. Attached is a list of parameters that will need to be analyzed and general guidelines for obtaining the soil sample(s). The plan submitted indicates that much of the native soil material was used in the dikes of the ponds. Please provide an estimate of the volume of soil materials within the dikes. Substitute soil materials (such as the tailings material) will also need to be analyzed for the soil parameters listed. (LK)

106.6 Plan for protecting & redepositing soils
Please describe how soil materials will be protected from further impact and how soil materials will be redeposited for reclamation (including average thickness of soils). Also, if substitute soils will be used for reclamation, please describe any amendments that will be needed to enhance these materials to make them suitable for reclamation. (LK)

106.7 Existing vegetation - species and amount

Please submit a vegetation survey that identifies the species and the percent of ground cover that exists (or is presumed to have existed) on the area affected by this operation. Since most of the area is already disturbed, this survey should be conducted in the adjacent undisturbed areas surrounding the site. This survey is needed to establish the reclamation success standards and to fine tune the revegetation plan. (LK)

106.9 Location & size of ore, waste, tailings, ponds

Please indicate the location and size of the tailings pond (present and planned) and water storage ponds on the surface facilities map. Will there be a ore stock-pile located at the mill site? (DJ)

R647-4-107 - Operation Practices

107.1 Public safety & welfare

107.1.11 Closing or guarding shafts & tunnels

Any rehabilitation of shafts or other areas will be considered part of the plan and, as such, need to be identified on a map and a reclamation plan provided. (TM)

107.1.12 Disposal of trash, scrap, debris

Indicate where and how trash generated at the site will be collected and disposed of. (DJ)

107.1.14 Posting warning signs

Adequate signs needs to be described for any hazardous areas where chemicals are stored. (TM)

107.2 Drainages to minimize damage

The letter of March 22, 1999 to the BLM, stated that erosion controls would be utilized during reclamation of the mill site. It is a very erosive environment and using surface roughness on the reclaimed area will help control erosion, promote stability, and aid in the success of reclamation. This will be considered a requirement upon final reclamation. Please incorporate this into your plan. (TM)

Any storage areas of ore or loose soils need to be bermed to prevent off site migration of disturbed material into drainages. (TM)

107.4 Deleterious material safety stored or removed

See comments under R647-4-111.4 (TM)

107.5 Suitable soils removed & stored

Please plan to salvage suitable soils from areas of future disturbance (See comments under R647-4-106.5 and 106.6) (LK)

107.6 Concurrent reclamation
Show on the reclamation treatments map where any previous reclamation has occurred. (DJ)

R647-4-109 - Impact Assessment

109.2 Impacts to threatened & endangered wildlife/habitat
Please describe any potential impacts to threatened or endangered plants or animals or to critical wildlife habitat. If there will be no impacts please state this. (LK)

R647-4-110 - Reclamation Plan

110.1 Concurrent & post mining land use
Please describe the current (pre-mining) land use of the area. Also, please describe the proposed post mining use of the area. Please note, the reclamation plan needs to be designed to meet the intended post mining land uses. (LK)

110.3 Description of facilities to be left (post mining use)
Will any of the surface facilities be left as part of any postmilling land use? (DJ)

110.4 Description or treatment/disposition of deleterious or acid forming material
It has been noted that the Division will be notified if and when the tailings from this facility are potentially acid forming. (DJ)

110.5 Revegetation planting program
Please provide details of the revegetation plan, including, but not limited to seedbed preparation, soil amendments/fertilizer application, seeding methods, and timing of seeding (late fall is preferred planting time). An acceptable seed mix has been provided for final reclamation. The plan indicates that 100 pounds per acre of fertilizer will be applied. What type of fertilizer will be used? What is the basis for using this type and amount of fertilizer? The Division can assist in developing a fertilization/soil amendment plan after we receive and review the soil survey and lab analysis requested under R647-4-106-5. (LK)

R647-4-111 - Reclamation Practices

1.12 Disposal of trash & debris
Please include, as part of your plan, a commitment to remove all trash and scrap from the site upon closure. (DJ)

1.14 Posting warning signs
Signs should be posted notifying the public of any potential hazards at the site. (DJ)

111.3 Erosion & sediment control

The area is highly erosive, so it is appropriate to control offsite migration of disturbed soils. Berms etc. are required at the perimeter of any disturbance to prevent this from occurring. Please incorporate how you will control this erosion into your plan. (TM)

111.4 Removal/storage of deleterious material

Based on the initial assessment of the site and the inspection of June 30, 1999, there were many chemicals improperly stored and, as such, prior to any permit approval this aspect of the site will need to be cleaned up and inspected. A long term plan for handling chemicals needs to be approved and designated storage areas provided. This information must be provided in the plan and the storage areas identified on a map. This information relates to water quality as well as health and safety. (TM)

111.5 Land capable of post mining land use

See comments under R647-4-110.1 (LK)

111.12 Topsoil redistribution

See comments under R647-4-106.5 and 106.6 (LK)

R647-4-112 - Variance

No variances are requested.

R647-4-113 - Surety

Surety calculations cannot be completed until a scaled map of features at the site is received. (DJ)

Attachment: Soil analysis guideline

Division of Oil, Gas and Mining

Minerals Program

Baseline Soils and Overburden Requirements

Provide a order 3 soil survey and a soils map which describes and identifies the extent of each soils type within the permit area (it may be possible to obtain this information and map from the Natural Resources Conservation Service, formerly the Soil Conservation Service), and show the location(s) of any proposed topsoil and overburden (suitable substitute soil materials) stockpiles.

Provide an estimated volume of soil material that can be salvaged and used later for reclamation (please note, even an inch or two of topsoil can greatly improve reclamation success!).

For each soil type to be disturbed, and for each proposed substitute soil material, a soil analysis (laboratory) will need to be obtained. This analysis is needed to evaluate the suitability of the soil materials and the need for (and rate) any soil amendments and/or fertilizers revegetation success.

Recommended Laboratory Analyses

for each soil type to be disturbed or proposed substitute soil materials

1. Texture
2. pH
3. EC (conductivity)
4. SAR
5. Saturation Percentage
6. Percent Organic Matter
7. CEC (cation exchange capacity)
8. Alkalinity
9. Sulfur (acid potential)
10. $CaC0_3$
11. Total nitrogen
12. Nitrate nitrogen
13. Phosphorus (as P_2O_5)
14. Potassium (as K_2O)

Note: each soil sample needs to be about one quart in volume

Updated January, 2000